



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Advisory Circular

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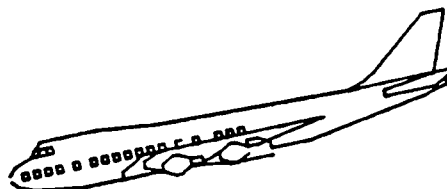
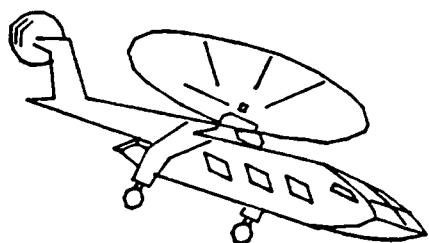
Date: 7/7/87

AC No: **AC 21-23**

Initiated by: AWS-4

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## Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported to the United States







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of Transportation  
**Federal Aviation  
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# Advisory Circular

**Subject:** AIRWORTHINESS CERTIFICATION OF  
AIRCRAFT, ENGINES, PROPELLERS,  
AND RELATED PRODUCTS IMPORTED  
TO THE UNITED STATES

**Date:** 7/7/87  
**Initiated by:** AWS-4

**AC No:** AC 21-23  
**Change:**

1. **PURPOSE.** This advisory circular (AC) provides information on the Federal Aviation Administration's (FAA) objectives, regulations, and general practices for United States of America (U.S.) airworthiness certification or acceptance of civil aeronautical products imported to the U.S.
2. **CANCELLATION.** Advisory Circular 21-7A, "Certification and Approval of Import Products," dated November 24, 1969, is canceled.
3. **RELATED FEDERAL AVIATION REGULATIONS AND ADVISORY MATERIAL.**
  - a. **Federal Aviation Regulations** (FAR) Part 21, Certification Procedures for Products and Parts.
  - b. **FAA Advisory Circulars** which relate directly to the airworthiness certification of imported products:
    - (1) AC 21-18, Bilateral Airworthiness Agreements;
    - (2) AC 21-20, Supplier Surveillance Procedures;
    - (3) AC 45-2, Identification and Registration Marks;
    - (4) AC 20-110, Index of Technical Standard Orders;
  - c. **Other Advisory Circulars:**
    - (1) AC 00-44, Status of Federal Aviation Regulations; provides current publication status of the FAR's and any revisions which have been issued.
    - (2) AC 00-2, Advisory Circular Checklist; provides a list of all published AC's, the revision status of each, and information on availability.
4. **DEFINITION OF TERMS AND ABBREVIATIONS.**
  - a. **Bilateral Airworthiness Agreement (BAA)** means a government-to-government executive agreement between the U.S. and the government of another country to facilitate the airworthiness approval or acceptance of civil aeronautical products (see paragraph 4b below) exported from one country (contracting State) to the other. BAA's are not trade agreements, rather they are technical cooperation agreements, intended to provide a framework for the

airworthiness authority of the importing State to give maximum practicable credit to airworthiness certification functions performed by the airworthiness authority of the exporting State using its own domestic certification system. (Ref. FAA AC 21-18, Bilateral Airworthiness Agreements.)

b. Civil Aeronautical Product (herein also referred to as "product") means any civil aircraft, or aircraft engine, propeller, appliance, material, part, or component to be installed thereon. For the purposes of this AC, the term "prime product" is used to distinguish a prime product; e.g., an aircraft, aircraft engine, propeller, or major appliance, from replacement parts intended for installation on the prime product.

c. Imported to the United States, for aircraft, means an aircraft intended to be placed on the U.S. registry; and for all other products, means intended for installation on a U.S.-registered aircraft even though the aircraft in either case is not operated in the U.S.

d. A Rebuilt Product. [Reserved.] To be added at the first revision.

e. The following abbreviations are used:

- (1) ACO: An FAA Aircraft Certification Office
- (2) BAA: Bilateral Airworthiness Agreement
- (3) CFR: U.S. Code of Federal Regulations
- (4) ECAA: Civil Airworthiness Authority of the Exporting State
- (5) FAA: Federal Aviation Administration, U.S.A.
- (6) FA Act: The Federal Aviation Act of 1958, as amended  
(a U.S. Statute)
- (7) FAR: U.S. Federal Aviation Regulations  
(Title 14, Chapter I, Parts 1-199, CFR)
- (8) PC: Production Certificate
- (9) PMA: Parts Manufacturer Approval
- (10) STC: Supplemental Type Certificate
- (11) TC: Type Certificate
- (12) TSO: Technical Standard Order

## 5. GENERAL.

a. Under Section 610 of the Federal Aviation Act of 1958 (FA Act) as amended, any civil aircraft registered in the U.S. must have a valid airworthiness certificate before it can be operated lawfully. Under Section 603(c) of the FA Act, a civil aircraft (including its engines, propellers, and installed appliances) must conform to an FAA-approved type certificate and be found in a condition for safe operation to be eligible for a U.S. airworthiness certificate. Also under Section 603(c) of the FA Act, a civil aircraft must be registered in the U.S. and appropriately marked (registration numbers) before it can receive a U.S. airworthiness certificate. These statutory requirements are codified in FAR 21.

b. Under FAR 21.181(a), a standard U.S. airworthiness certificate on an aircraft remains valid only as long as maintenance/preventative maintenance and alterations are performed in accordance with FAR's 43 and 91, and the aircraft continues to be registered in the U.S. FAR 43.13 requires, in effect, continuing conformity to the aircraft's FAA-approved type design. Therefore, all replacement engines, propellers, materials, parts, and appliances installed on a U.S.-registered civil aircraft must be acceptable to the FAA. These requirements apply equally to U.S.-registered aircraft operated outside the U.S., as they do for aircraft operated within the U.S.

c. An export certificate of airworthiness, issued by the airworthiness authority of an exporting State to facilitate U.S. airworthiness certification, does not constitute an authorization to operate an aircraft and, therefore, does not satisfy the requirement for a U.S. airworthiness certificate discussed in paragraph 5a above.

d. Many civil aeronautical aircraft and products (including FAA-approved aircraft and products manufactured outside the U.S.), which have been registered outside the U.S. or used on aircraft registered outside the U.S., are subsequently returned to the U.S. Design changes or repairs and modifications made on the product while that aircraft or product was operated on a registry of another country must be either removed and the product returned to an FAA-approved configuration, or the changes must be approved by the FAA before a U.S. standard airworthiness certificate or approval can be issued. Complete maintenance records must be provided and other maintenance requirements of FAR's 121 and 135 may apply which are outside the scope of this AC.

e. A U.S. air carrier or commercial operator, certificated under FAR 121 or 135, may operate an aircraft under lease or charter that is not registered in the U.S., provided certain requirements are met, including establishing that the aircraft conforms to a type design approved by the FAA. The requirements which must be met in order for such aircraft to be operated are contained in FAR's 121.153 and 135.25.

f. A U.S. manufacturer of civil aeronautical products may elect to use suppliers or subcontractors located outside the U.S. to provide components for installation in the end product produced in the U.S. (reference paragraph 8b).

g. Except for Canada, the bilateral airworthiness agreements between the U.S. and other countries do not address FAA acceptance of maintenance work performed outside the U.S. Therefore, this AC does not address such maintenance on U.S.-registered aircraft or on products to be installed on U.S.-registered aircraft.

h. A special "Schedule of Implementation Procedures for the U.S./Canada Bilateral Airworthiness Agreement" has been agreed between the FAA and Transport Canada Aviation Group (TCAG). This document should be used in conjunction with this AC when exporting aeronautical products to the U.S. from Canada.

i. The FAA does not issue airworthiness certificates, or grant approvals, for aeronautical products manufactured in a State with which the U.S. does not have a bilateral airworthiness agreement for the kinds of products concerned.

j. Information provided in this AC is intended to offer guidance for the most common situations encountered in the design approval leading to FAA type certification or letter of TSO design approval, and to FAA airworthiness certification or approval of civil aeronautical products and components to be imported to the U.S. Procedures and practices needed to cover unique situations should be cleared in advance with the Office of Airworthiness in FAA Headquarters, Washington, D.C.

k. Suggestions or comments for future revision of this AC should be addressed to the Director of Airworthiness, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591.



M.C. Beard  
Director of Airworthiness

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## CHAPTER 1. INTRODUCTION

6. GENERAL. Aircraft airworthiness certification in the U.S. is a public safety function performed by the FAA with the purpose of assuring the safety and environmental (noise and emissions) acceptability of U.S.-registered civil aircraft operating in air commerce. A U.S. statute--the Federal Aviation Act of 1958 (FA Act)--sets forth the powers and duties of the FAA Administrator in the safety regulation of civil aeronautics, including airworthiness certification of civil aeronautical products.

a. Section 601(a) of the FA Act charges the FAA Administrator with the responsibility of prescribing and revising from time-to-time minimum airworthiness standards for aircraft, engines, propellers, and appliances as required in the interest of safety. The U.S. airworthiness standards set forth by the FAA in the Federal Aviation Regulations (FAR) are promulgated to implement this statute.

b. Section 610(a)(1) of the FA Act makes it unlawful for any person to operate in air commerce any U.S.-registered civil aircraft for which there is not currently in effect an airworthiness certificate, or in violation of the terms of any such certificate.

c. Section 603 of the FA Act provides for the issuance of "aircraft certificates" by the FAA Administrator to U.S.-registered aircraft. Three specific kinds of aircraft certificates are addressed in generic terms by that section. These are:

(1) "Type Certificates" [Section 603(a)] which envisage all forms of design approval for civil aircraft, aircraft engines, propellers, and appliances, including materials and parts installed on these products;

(2) "Production Certificates" [Section 603(b)] which envisage all forms of manufacturing quality control and inspection system approvals for the manufacture of duplicates of products for which a type certificate or design approval has been issued; and

(3) "Airworthiness Certificates" [Section 603(c)] for completed aircraft when the Administrator "...finds that the particular aircraft conforms to the type certificate (approved design) therefor, and after inspection, that the aircraft is in condition for safe operation...."

d. The FA Act requires, in effect, that an FAA design approval (e.g., a U.S. type certificate) be issued as a prerequisite for issuing either a manufacturing quality control system approval (e.g., production certificate) or an airworthiness certificate or approval for the product. However, an FAA production approval is not a prerequisite for issuing a U.S. airworthiness certification or approval. As will be explained later in Chapter 4, the FAA does not usually issue production certificates or any of the other forms of manufacturing quality control system approval to companies located outside the U.S.

e. The FAA's regulations concerning airworthiness certification procedures for civil aeronautical products and parts, including products imported to the U.S., are set forth in FAR 21. The current U.S. airworthiness standards (design requirements) are set forth in:

(1) FAR's 23 through 35, plus Special Federal Aviation Regulations (SFAR) No. 41, for various kinds of products.

(2) A series of Technical Standard Orders (TSO) identified in AC 20-110, Index of Technical Standard Orders, for appliances and articles (parts, materials, processes, or appliances).

(3) FAR's 21, 36, and 91 for the FAA noise standards for airplanes.

(4) SFAR No. 27 for standards concerning fuel venting and exhaust emissions for turbine-powered airplanes.

f. The FA Act requires the FAA to make certain "findings" or determinations of compliance to U.S. airworthiness standards before issuing any of the above kinds of certificates or related approvals. In the case of design approvals (e.g., type certificates), the FAA is required to find that the design of the product meets the U.S. airworthiness standards applicable to the product. Similarly, the FA Act requires the FAA to determine that a product conforms to a design previously approved (e.g., type certificated) by the FAA, and that it is in a condition for safe operation before issuing to that product a U.S. airworthiness certificate or approval. Even though the FA Act is quite explicit that these "findings" must be made by the FAA, the Act permits the FAA Administrator to exercise discretion in how these findings will be made, the level of direct FAA involvement necessary, and what constitutes competent evidence for making the required findings.

g. The FAA makes its findings for the airworthiness certification, approval, or acceptance of civil aeronautical products imported to the U.S. by working through and in cooperation with the civil airworthiness authority of the exporting State (exporting civil airworthiness authority; i.e., ECAA). For the most part, FAA predicates its findings on statements from the ECAA which,

in effect, certify to the FAA that the design and performance of the product meet the U.S. or equivalent airworthiness standards; that the exported product (including complete aircraft) conforms in construction and manufacturing processes to the approved design; and at the time of export certification by the ECAA, that the product is determined by the ECAA to be in a condition for safe operation.

7. FAA AIRCRAFT CERTIFICATION ORGANIZATION.

a. The FAA aircraft certification organizational structure is shown in Appendix 1. Addresses of these organizational elements are provided in Appendices 2 and 3.

b. Four "Aircraft Certification Directorates" located out of Washington, D.C., have been established to develop and assure the standard application of technical policies in the type certification of particular kinds of products. These directorates and assigned product responsibility are as follows:

(1) Small Airplane Certification Directorate at Kansas City, Missouri, responsible for FAR 23 airplanes.

(2) Transport Airplane Certification Directorate at Seattle, Washington, responsible for FAR 25 airplanes.

(3) Rotorcraft Certification Directorate at Fort Worth, Texas, responsible for FAR's 27 and 29 rotorcraft.

(4) Engine and Propeller Certification Directorate at Burlington, Massachusetts, responsible for FAR's 33 and 35 engines and propellers.

c. The Office of Airworthiness develops and oversees standard application of general type, production, airworthiness certification, and continued airworthiness policies (e.g., FAR's 21 and 39), including those related to implementation of the bilateral airworthiness agreements. The Office of Airworthiness also develops and oversees standard application of technical policies concerning the type certification of gliders, manned free balloons, special classes of aircraft, and appliances covered by a Technical Standard Order (TSO).

d. Aircraft certification tasks are normally handled within a particular geographic area by an aircraft certification office (ACO) that reports to one of the directorates or the Office of Airworthiness.

e. The addresses of the aircraft certification offices having certification responsibilities outside the U.S. are provided in Appendix 2.

## 8. BILATERAL AIRWORTHINESS AGREEMENTS (BAA).

a. To provide for the procedures summarized in paragraph 6g above, the U.S. Government has concluded a number of bilateral, executive agreements with the governments of other countries which have a competent civil airworthiness authority and an aeronautical product manufacturing industry. These agreements, commonly referred to as "bilateral airworthiness agreements" (BAA), are not trade agreements. Rather they are technical agreements concerning the performance of airworthiness certification functions and are, among other things, based on a high degree of mutual confidence in the exporting country's technical competence and regulatory capability for performing airworthiness certification functions within the scope of the particular agreement. The many agreements vary considerably in scope, but all of them provide in effect that "...the importing State shall give the same validity to the certification (made by the competent aeronautical authority of the exporting State) as if the certification had been made by its (the importing country's) own competent aeronautical authority in accordance with its own applicable laws, regulations, and requirements." One condition common to all of these agreements permits the importing State to prescribe additional technical conditions "...which the importing State finds necessary to ensure that the product meets a level of safety equivalent to that provided by its applicable laws, regulations, and requirements which would be effective for a similar product produced in the importing State." Thus, the FAA works through these agreements to make creditable findings as required by the FA Act that the import product meets U.S. or equivalent standards, based on a certifying statement to that effect from the ECAA, by —

- (1) Becoming familiar with the product and the other country's certification systems as applied to that product;
- (2) Working closely with the ECAA in an advisory role on the U.S. certification system; and
- (3) Prescribing additional technical conditions, if necessary, to assure that equivalency with U.S. standards is achieved.

b. Any U.S. manufacturer may use the services of a foreign supplier or subcontractor, under the components provision of the BAA's, to furnish components (materials, parts, or subassemblies) for use on products which are, or may be, certified or approved (i.e., production or prototype). A U.S.-located manufacturer, however, may elect to use suppliers and subcontractors in any country for the manufacture of components without benefit of BAA's, provided the U.S. manufacturer holds an FAA production approval of some kind and has a quality control system, which includes controls acceptable to the FAA, to cover components produced in those countries. These procedures are explained more fully in AC 21-20, Supplier Surveillance Procedures.

c. Except as provided in paragraph 8b above, the FAA does not issue design approvals for import products nor consider them eligible for airworthiness certification or installation on U.S.-registered aircraft unless a BAA is in effect between the U.S. and the country of manufacture which specifically provides for the approval of the particular kind of product.

d. AC 21-18 titled, "Bilateral Airworthiness Agreements," provides more information on BAA's and contains copies of all current agreements.

9. AIRWORTHINESS SAFETY OBJECTIVES AND FUNCTIONS. The procedures and practices applied by the FAA for the airworthiness certification of civil aeronautical products to be exported to the U.S. are intended to achieve four fundamental objectives, namely that:

a. The design and performance of the product meet the applicable U.S. airworthiness and environmental standards, or standards determined by the FAA to be equivalent;

b. Each particular civil aeronautical product presented for U.S. airworthiness certification, approval, or acceptance for installation on a U.S.-registered aircraft conforms in construction to an FAA-approved design and is in a condition for safe operation;

c. The companies responsible and the national airworthiness authorities having regulatory responsibility for product design integrity and manufacturing quality control are clearly defined and have adequate technical capability; so as to assure that safety issues which may arise with the product in service will be satisfactorily resolved in a timely manner; and

d. The FAA can meet its regulatory responsibilities under the FA Act in administering the applicable requirements of the FAR without undue burden.

10. COUNTRY OF MANUFACTURE. Many of the BAA's address products produced in one State for export to the other State. FAR 21 refers to manufacture in a foreign country. Many aircraft, aircraft engines, propellers, and appliances are made up of parts or subassemblies from several countries with shared design and production responsibilities. In applying the BAA and FAR, the FAA has traditionally considered the "country of production," or "country of manufacture," to be the country where series production units of the product first come together as completed end units, are first tested as a unit for airworthiness certification purposes, and receive their first airworthiness approval by a national airworthiness certification authority. Special exceptions have been made to this practice when justification is provided, and the objectives of paragraph 9 above are satisfied.

11. MULTINATIONAL PROGRAMS. The procedures outlined in this AC do not attempt to address the emerging trends toward multinational industrial cooperation in the design and production of civil aeronautical products. The varieties of possible commercial arrangements are too numerous to attempt to consider in a standard procedures advisory document such as this. Therefore, in such cases, special procedures and arrangements may become necessary for U.S. type certification, design approval, or airworthiness acceptance of such products. The Office of Airworthiness will assess each proposed arrangement against its ability to satisfy the safety objectives set forth in paragraph 9. Agreement by the affected ECAA's, or collaboration of ECAA's, on each proposal will also be necessary. The FAA welcomes early discussions with manufacturers considering such arrangements.

12.-19. [RESERVED.]

## CHAPTER 2. PRODUCT DESIGN APPROVAL PROCEDURES

### 20. GENERAL.

a. Product design approvals will not be granted to an applicant located in a country with which the U.S. has not concluded an executive agreement for the export and import airworthiness certification of such products (i.e., a BAA).

b. An FAA type design approval for a product (e.g., aircraft) is issued as a prerequisite for issuance of a U.S. airworthiness certificate; to permit a non-U.S.-registered aircraft to be operated under lease or charter by a U.S.-certificated air carrier or commercial operator under FAR 121 or 135; or to permit a product (e.g., engines, appliances) to be installed on an aircraft having a U.S. airworthiness certificate. The FAA will assign a higher priority to applications for type design approval of a product to be imported to the U.S. when one of the above situations is shown to exist. The FAA does not normally grant type design approvals for products to be manufactured outside the U.S. which are not intended for utilization on the U.S. Register, or for operation by a U.S. operator under lease or charter, except for engines, propellers, appliances or items of equipment to be incorporated into the design of a U.S.-manufactured product. Therefore, applicants for design approval from outside the U.S. should provide the FAA with evidence of intended U.S. utilization or installation on a U.S.-manufactured product at the time of application. If a firm U.S. customer exists, this information should be provided to the FAA to help establish project priorities.

c. The FAA grants design approval of civil aeronautical products to be imported to the U.S. in the following forms.

(1) "Type Certificates" (including type certificate amendments) are issued for the design approval of aircraft, aircraft engines, and propellers.

(2) "Supplemental Type Certificates" are issued for approval of major modifications/alterations to a type certificated design (aircraft, aircraft engines, and propellers). Holders of type certificates generally—though not required—have their type certificate "amended" for these purposes rather than obtaining supplemental type certificates. (See paragraph 20c(1)).

(3) "Letters of TSO design approval" are issued to approve the design of appliances and articles of equipment to be manufactured outside the U.S. (separate from a TC) which meet the performance standards of an FAA Technical Standard Order.

(4) "Letters of replacement part design approval." [Reserved.]  
To be added at the first revision.

d. Unless specifically covered by the applicable BAA, the FAA does not issue STC's to non-U.S. applicants located outside of the country where the affected aircraft, engine, or propeller was manufactured, because of the undue burden of administering the applicable requirements.

e. The FAA procedural regulations for the design approval of products to be imported to the U.S. are set forth in the following regulations:

(1) FAR 21.29 establishes the procedural requirements for issuance of type certificates and type certificate amendments for aircraft, aircraft engines, and propellers.

(2) FAR 21, Subpart E prescribes procedural requirements for issuance of Supplemental Type Certificates.

(3) FAR 21.601(b)(3) and 21.617 establish procedural requirements for the design approval of TSO appliances and articles.

(4) Under FAR 21.502, FAA design approval may, in certain cases, be issued by letter to approve the design of a material, part, or appliance.

## 21. TYPE CERTIFICATION PROCEDURES (Aircraft, Aircraft Engines, and Propellers).

### a. General.

(1) FAR 21 provides for issuance of type certificates under either the standard procedures of FAR 21.21 normally intended for approval of U.S.-manufactured products, or FAR 21.29 for approval of products to be imported to the U.S. The procedures for issuance of these type certificates are different; however, once issued, both type certificates have equal status and validity for the purpose of satisfying Section 603(a) of the FA Act. Under FAR 21.21, the FAA, or FAA designees, makes the technical evaluations, inspections, etc. Under FAR 21.29, the FAA's findings of compliance for products to be imported are based, for the most part, on technical evaluations, inspections, and certifications made for the FAA by the ECAA of the country of the applicant.

(2) Under FAR 21.29, a type certificate may be issued for a product to be manufactured in a foreign country with which the U.S. has an agreement for the acceptance of these products for export and import (i.e., a BAA) and that is to be imported into the U.S. if:

(i) The airworthiness authority of the country in which the product is to be manufactured (ECAA) certifies to the FAA that the product has been examined, tested, and found to meet the airworthiness and noise standards established by the FAA for the product;

(ii) The applicant has submitted the required technical data concerning aircraft noise, emissions, and airworthiness;



(iii) The manuals, placards, listings, and instrument markings required by FAR 21.29 are presented in the English language;

(iv) The applicant has submitted the technical data required by the FAA, as described in paragraph 21k(1) below (reference Figure 2-1); and

(v) The FAA has determined that the airworthiness and environmental standards applied by the ECAA for U.S. certification will provide compliance with the U.S. type certification basis.

(3) Design approvals for major modifications (including model changes) to products will usually be issued in the form of an amendment to the existing TC (or letters of TSO design approval) or as an STC.

(4) Minor changes, product design improvements, or service instructions (e.g., service bulletins, structural repair manuals, supplemental structural inspection documents, etc.) other than those to be dealt with under paragraph 21a(3) will be considered FAA approved, if approved by the ECAA under its normal procedures. However, service bulletins or other similar instructions classified as "mandatory" by the ECAA are not mandatory in the U.S. regulatory system unless required by an FAA Airworthiness Directive.

b. Application for FAA Type Certification. Applicants are required to submit applications for FAA type certification to their own national airworthiness certification authority with a request that the application and related data and information be forwarded to the FAA aircraft certification office (ACO) responsible for the country in which the applicant is located (see Appendix 2). As a minimum, the application should include a general description of the product, including a three-view drawing for aircraft or a cross-section drawing for engines and propellers.

c. Additional Information. The following information, in addition to the application, will assist the ACO in handling the project in a more timely manner:

(1) A definition of the national airworthiness standards upon which the ECAA design approval was (or is to be) based, and the U.S. airworthiness standards the ECAA believes to be satisfied by its own standards.

(2) A description of any novel or unusual design features known to the applicant or ECAA at the time of application which might necessitate issuance of FAA special conditions under FAR's 21.16 or 21.101, or which might require a special review of acceptable means of compliance.

(3) Any expected exemptions or equivalent safety findings relative to the ECAA's national standards for design approval that might affect compliance with the applicable U.S. airworthiness standards;

(4) A planning date for FAA type certification.

(5) Available information on U.S. market potential, including specific customers, if known (ref. paragraph 20b).

d. FAA Technical Involvement. In consonance with the BAA, the FAA's technical involvement in the design approvals (particularly, the issuance of type certificates, and type certificate amendments) is intended to accomplish the following functions:

(1) To provide for FAA familiarity with the general design, performance, and operational characteristics of the product for which U.S. type certification or design approval is sought, for the purpose of completing the task of paragraph 21d(2) and, to the extent necessary, for FAA to meet its post-certification responsibilities after the product enters service on the U.S. registry;

(2) To establish the U.S. type certification or design approval basis for the product under application by determining the U.S. airworthiness standards that would be applied to a similar product if it were to have been produced in the U.S.;

(3) To understand the airworthiness certification system (including the airworthiness and environmental standards, policies, and certification practices) applied by the ECAA in their domestic certification of the product;

(4) To compare the airworthiness and environmental standards, policies, and practices applied by the ECAA in their domestic certification with the U.S. type certification basis or design requirements and certification policies and practices;

(5) To define and explain (from the comparison activity of paragraph 21d(4)) any additional technical conditions that should be met for FAA certification to provide for equivalency with the applicable U.S. airworthiness and environmental standards;

(6) To maintain sufficient liaison and technical dialogue with the ECAA to ensure that technical questions and issues which might affect U.S. certification of the product are identified and resolved between the FAA and ECAA as early as possible; and

(7) To provide for effective management of the certification project and for the most cost-effective utilization of FAA's resources on the project.

e. Project Management. The FAA ACO will, upon receipt of an application for type certificate or amended type certificate, consult with the accountable FAA Aircraft Certification Directorate (see Appendix 3) to establish where project management responsibility will reside. High priority will be given to the establishment of the project management office and notification to the ECAA. If project management is assumed by the accountable directorate, the ACO having geographic responsibility will continue to play an active liaison and technical support role for the project manager. After issuance of the type design

approval, the ACO usually becomes the certificate management office for normal post-certification activities; e.g., resolution of service difficulties, approval of routine type design changes, flight manual changes, etc.

(1) The accountable directorate can be expected to assume project management responsibility from the outset on certain selected aircraft type certification projects. Each directorate will designate a "project manager" to manage each project assumed. Projects within a particular country that are not assumed by the directorate will remain the project management responsibility of the ACO having geographic responsibility for that international area. The kinds of projects for which project management responsibility would typically be assumed by a directorate include the following:

- (i) New transport category airplanes and transport category rotorcraft.
- (ii) Major new derivative models of transport category airplanes and transport category rotorcraft.
- (iii) New or derivative model normal or commuter category airplanes having a seating capacity of ten or more passengers, or having a maximum takeoff weight in excess of 12,500 pounds.
- (iv) Novel or unique normal category airplanes, normal category rotorcraft, or projects introducing new technology or unusual configurations to these categories.
- (v) First of a category of projects with a particular ECAA; e.g., the first time a normal category helicopter is to be certificated through a particular ECAA.

(2) The kinds of projects for which project management responsibility would typically remain with the ACO's include the following:

- (i) New normal category airplanes and normal category rotorcraft of routine design where a satisfactory working relationship for these categories of projects has been established with the ECAA through previous experience.
- (ii) Routine amendments to existing transport category airplanes and transport category rotorcraft type certificates to approve model variations, flight manual changes, equipment changes, and operator requested changes, etc.
- (iii) All glider, airship, and manned-free balloon projects.
- (iv) All appliance design approval projects where the performance standards of an FAA Technical Standard Order (TSO) are being applied.
- (v) Letters of design approval for replacement parts.

(3) On projects managed by the accountable directorate, the ACO will continue to provide the following liaison and technical support functions:

(i) In conjunction with the project manager, assist in answering inquiries from the ECAA, or from the manufacturer through the ECAA, on the interpretation of requirements of the U.S. certification basis, including special conditions;

(ii) Assist in discussions on acceptable means of compliance;

(iii) Coordinate with the project manager any proposed equivalent safety findings and/or requests for exemptions from the U.S. certification basis; and

(iv) Participate in all significant technical meetings so as to provide the assistance required and be in a position to assume post-certification certificate management responsibilities.

(4) The ACO will notify the ECAA as to who has project management responsibility as soon as possible after receipt of the application, after consultation with the accountable directorate.

f. Communications. Applicants for FAA type certificates or design approvals may request technical meetings, or may correspond directly with the FAA to discuss and resolve technical issues that may arise in the program. However, because the FAA relies heavily on the ECAA's understanding of FAA's position on such issues, it is imperative that the ECAA be included in any such meetings or correspondence. Also, FAA will normally seek the ECAA's opinions before significant issues are resolved and, accordingly, may decline to meet with the applicant to discuss and resolve technical issues unless the ECAA is adequately represented at the meeting. Similarly, correspondence will usually be answered through, coordinated with, or copied to the ECAA.

g. Familiarization Briefing.

(1) On major projects, as soon as practicable after the application has been received and acknowledged by the FAA; the point of project management has been established; and the details of the design are sufficiently decided by the applicant, a familiarization briefing on the product will generally be requested by the FAA. The FAA will ask the ECAA to arrange the meeting. The primary purposes of the briefing will be to permit accomplishment of the following tasks:

(i) The applicant describes the design to the FAA. This briefing (or series of briefings) should cover all aspects of the design. Emphasis should be placed on any novel, unusual, or critical design features which might necessitate the issuance of either FAA or ECAA special conditions or new applications of existing standards.

(ii) The FAA is afforded an early opportunity to ask questions about the design, or about particular applications or interpretations of the exporting country's standards to be applied by the ECAA in its own domestic certification of the particular product. This will facilitate an early FAA determination as to whether additional technical conditions will be necessary for U.S. certification.

(2) For products with a prior service history, but not previously type certificated by the FAA, the applicant and the ECAA should plan to brief the FAA on the product's service history, including corrective measures taken to preclude reoccurrence of incidents or accidents.

(3) The briefing will be held at a location mutually agreeable to the ECAA, the FAA, and the applicant. ECAA attendance is mandatory.

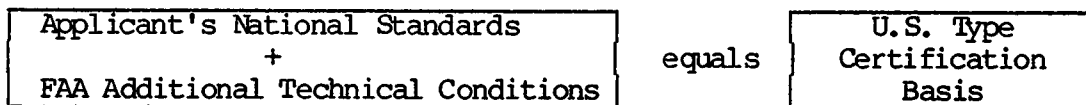
h. Establishment of the U.S. Type Certification Basis. The U.S. type certification basis for the product to be imported will be the U.S. airworthiness, noise, and environmental standards (FAR plus special conditions) that would be applied for a similar product produced in the U.S. at the time of original application for design approval from the ECAA. The U.S. type certification basis will be established as soon as the FAA is sufficiently familiar with the product to do so. The U.S. type certification basis must be established to form a basis for comparing the U.S. airworthiness standards with those applied by the ECAA in conducting its own national certification, to determine what, if any, additional technical conditions must be met for U.S. type certification.

(1) U.S. Airworthiness Standards for various aircraft categories are codified in FAR's 21 (sailplanes only), 23, 25, 27, 29, and 31. Engines are covered by FAR 33, and propellers are covered under FAR 35.

(2) FAA Special Conditions are an integral part of the U.S. type certification basis. The FAA issues special conditions under FAR's 21.16 and 21.101 if the FAA finds that the applicable U.S. airworthiness standards (codified in the applicable FAR) do not contain adequate or appropriate safety standards for an aircraft, aircraft engine, or propeller because of a novel or unusual design feature of the product. FAA special conditions are issued through the public rulemaking procedures of FAR 11 and contain such safety standards for the particular product as the FAA finds necessary to establish a level of safety equivalent to that established in the applicable FAR airworthiness standards. FAA special conditions issued for products imported to the U.S. are the same as would be issued for a similar product produced in the U.S.

(3) Noise and Environmental Standards are covered in FAR 36 and SFAR 27.

i. Agreement on Certification Criteria. The ECAA may elect to certify compliance with either the U.S. type certification basis or with its own national standards applied to the product by the ECAA, plus the "FAA additional technical conditions," if any, notified by the FAA (see paragraph 21j below). In either case, the FAA finding that the product meets the U.S. type certification basis will rely largely on the ECAA certification of compliance to the FAA. If the ECAA elects to certify compliance with its own national standards, plus FAA additional technical conditions, this fact should be established by the ECAA early in the project so that the necessary comparisons of national standards can be completed, and the FAA additional technical conditions (if any) can be established.



j. FAA Additional Technical Conditions may be specified by FAA in addition to the certification requirements of the exporting State as a condition for FAA approval of the type design of an aeronautical product to account for:

(1) Differences in the basic airworthiness and environmental standards between the U.S. and exporting State;

(2) Noncompliance with airworthiness or environmental standards of the exporting State because of exemptions or equivalent safety findings granted by the airworthiness authority of the exporting State for its own domestic certification, provided there is a similar U.S. requirement;

(3) Special conditions issued by the FAA under FAR 21.16 or 21.101 because of a novel or unusual design feature of the product, which are not covered in an equivalent manner by the airworthiness standards of the exporting State;

(4) Mandatory airworthiness actions (e.g., Airworthiness Directives) directed by the exporting State to correct unsafe conditions experienced during operation prior to application for FAA approval; and

(5) Optional conditions identified by the FAA to assist the eventual U.S. operator to comply with current U.S. operational or maintenance requirements (at the applicant's option).

k. Project Updating. Through the course of the project, the FAA will rely upon the ECAA to advise them of any of the following developments:

(1) Novel or unusual design features which may come to light during design development that might necessitate amendment of the U.S. type certification basis (including special conditions), or require special discussions with FAA on acceptable means of compliance.

(2) Changes or additions to the ECAA's certification basis, exemptions, etc., previously specified which might alter the FAA additional technical conditions (see paragraph 21i).

(3) Need for FAA equivalent safety findings or exemptions from the U.S. type certification basis which may become apparent and are considered justified by the ECAA during design development.

1. Data Submittal and Design Review.

(1) Experience has shown that technical data representing the product, as required by FAR 21.29, will vary with the type and complexity of the product involved. Consequently, the project management office may request additional data, beyond that specified herein, for the purpose of establishing the U.S. type certification basis and for becoming familiar with unique design features or manufacturing processes. The items listed in Figure 2-1 in this chapter, by product, are examples of the technical data normally requested.

(2) During the type certification program, the FAA may request additional technical design data, may review the product, and may fly the product for familiarization purposes. Also, quite often data or briefings on the design are requested to assist the FAA in advising the ECAA on acceptable means of compliance with the U.S. type certification basis.

(3) All data submitted to the FAA should be submitted through the ECAA by the applicant for verification and transmittal to the FAA.

m. Issue Papers. On major projects, identification, status tracking, and resolution of significant technical, regulatory, and administrative issues will be documented by the managing office using Issue Papers. Complete and current Issue Books will be maintained by the FAA project management office and will be made available to the ECAA and the applicant.

n. Final Certification Meeting. Prior to the Final Certification Meeting, the FAA should be fully assured by the ECAA that the applicant has demonstrated compliance with the applicable airworthiness standards in accordance with the agreed technical policies on acceptable means of compliance. The Final Certification Meeting is held to assure that all items on the "Type Certification Completion Checklist," Figure 2-2, have been received from the ECAA and appropriate FAA offices. The FAA then issues the type certificate and draft TC data sheet and forwards them to the ECAA for transmittal to the applicant.

o. TC Amendments and STC's. The basic TC procedures interrelationships described above will also apply for TC Amendments and STC's (when allowed); however, the certification procedure may be adjusted as appropriate to the magnitude and complexity of the design change.

p. Evaluation of Operational and Maintenance Aspects. The FAA has established Aircraft Evaluation Groups (AEG), located at the accountable directorates, for transport category airplanes, normal, utility, acrobatic, and commuter category airplanes, and rotorcraft. The AEG is staffed by operations and maintenance specialists to evaluate the operational and maintenance aspects of new aircraft and new derivatives of existing aircraft. The AEG has responsibility for determining such things as U.S. pilot type rating requirements, operator flight training requirements, master minimum equipment list acceptability, and maintenance program acceptability for U.S. operations. The AEG will also review and make recommendations concerning the acceptability of the Aircraft Flight Manual and maintenance manuals against U.S. operational requirements. These AEG activities are not part of the design approval process; however, AEG staff will integrate their activities to the maximum extent practicable with the design approval activities to ease the burden on all concerned. It is in the applicant's best interest to cooperate and work with the AEG, because this will, in turn, facilitate the U.S. operators gaining FAA operational approval (under FAR 121, 135, etc.) of its products for service in the U.S.

22. LETTERS OF TSO DESIGN APPROVAL (Appliances and Equipment).

a. An FAA "letter of TSO design approval" will be issued to manufacturers, located in a country with which the U.S. has concluded a BAA appropriate for the product in question, for products that meet the U.S. airworthiness requirements (minimum performance standards) of FAR 21, Subpart O, Technical Standard Orders, provided:

(1) A certifying statement is received from the ECAA that the design and performance of the appliance or article meet minimum performance standards of the applicable TSO or agreed equivalent standards; and

(2) The data required in the TSO is received.

b. All required data pertaining to the proper installation, performance, operation, and maintenance of the TSO article intended for export to the U.S. should be provided in the English language.

c. The FAA design approval of appliances and articles for which the U.S. airworthiness standards (minimum performance standards) are established in an FAA TSO can usually be accomplished by correspondence.

23.-29. [RESERVED.]



FIGURE 2-1 - EXAMPLES OF TECHNICAL DATA, BY PRODUCT, WHICH  
NORMALLY ARE REQUESTED BY THE FAA

1. AIRCRAFT.

- a. A statement of the applicable design certification standards.
- b. General interior arrangement configuration drawings.
- c. Three-view drawing (exterior configuration).
- d. Master drawing list.
- e. Master equipment list.
- f. Aircraft Flight Manual (including the Configuration Deviation List, if applicable).
- g. Instructions for Continued Airworthiness.
- h. Certification compliance (checklist).
- i. Data and descriptive information needed by the FAA to approve the type certificate data sheet.<sup>1/</sup>
- j. Listing of service life for critical parts subject to fatigue, if this information is not provided elsewhere in the above data.

2. AIRCRAFT ENGINES.

- a. Cross-section arrangement drawing.
- b. Master drawing list.
- c. Instructions for Continued Airworthiness.
- d. Operating manual.
- e. Installation manual.
- f. Certification compliance (checklist).
- g. Data and descriptive information needed by the FAA to prepare the type certificate data sheet.<sup>1/</sup>
- h. Listing of service life for critical parts subject to fatigue, if this information is not provided elsewhere in the above data.

3. PROPELLERS.

- a. General arrangement drawings and model description.
- b. Master drawing list.
- c. Installation manual.
- d. Instructions for Continued Airworthiness.
- e. Operating manual.
- f. Certification compliance (checklist).
- g. Data and descriptive information needed by the FAA to prepare the type certificate data sheet.<sup>1/</sup>
- h. Listing of service life for critical parts subject to fatigue, if this information is not provided elsewhere in the above data.

<sup>1/</sup> May be presented in the form of a draft type certificate data sheet prepared by the applicant.

FIGURE 2-2 - TYPE CERTIFICATION COMPLETION CHECKLIST

1. Resolution of all technical issues.
2. A statement from the ECAA certifying compliance with the U.S. type certification basis or agreed certification criteria (including additional technical conditions).
3. Compliance checklist.
4. Instructions for Continued Airworthiness or Airworthiness Limitations.
5. Draft Aircraft Flight Manual.
6. Draft Type Certificate Data Sheet.
7. Environmental Impact Statement. To be provided by the FAA in accordance with the National Environmental Policy Act of 1969.
8. Compliance with SFAR 27, Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes, when applicable.
9. Noise Evaluation Statement (not required for amended TC's). To be provided by the FAA in accordance with the Noise Control Act of 1972.
10. Dates established for FAA issuance of type certificate and delivery of first aircraft.

### CHAPTER 3. AIRWORTHINESS APPROVAL OF IMPORTED PRODUCTS

#### 30. GENERAL.

a. Aircraft and related products manufactured outside the U.S. being imported to the U.S. must, for FAA airworthiness acceptance, be accompanied by an export certificate of airworthiness or certifying statement issued by the CAA of the country of manufacture, or by the ECAA in the case of a "third country" as addressed in paragraph 31. Any deviations from the FAA-approved design must be noted on the certifying statement. Any such deviation must be resolved by the installer before the product is eligible for installation approval on U.S.-registered aircraft, or on an engine or propeller to be installed on a U.S.-registered aircraft.

b. FAA airworthiness approvals for civil aeronautical products to be imported to the U.S. are generally handled in the following manner.

(1) U.S. Airworthiness Certificates are issued for the airworthiness approval of complete aircraft in accordance with the procedures outlined in paragraph 31 of this AC.

(2) Aircraft engines, propellers, materials, parts, and appliances are considered to meet the requirements of the FAR for approval when the product is accompanied by a certification from the appropriate ECAA, attesting that the product conforms to the FAA-approved design and is in a condition for safe operation as outlined in paragraph 32.

c. The FAA requirements for the approval of civil aeronautical production articles imported to the U.S. are set forth in the following regulations.

(1) FAR 21, Subpart H establishes the procedural requirements for U.S. airworthiness certification of complete aircraft. These regulations apply to both new and used aircraft that do not already have a U.S. airworthiness certificate.

(i) FAR 21.183(c) is the airworthiness certification basis which pertains specifically to the issuance of U.S. standard airworthiness certificates for aircraft imported to the U.S. which have been type certificated by the FAA under the provisions of FAR 21.29. FAR 21.183(d) would apply as the regulatory basis for issuance of U.S. standard airworthiness certificates to all other aircraft imported to the U.S. which have been type certificated by the FAA, such as used aircraft, aircraft type certificated under the provisions of FAR 21.21 and manufactured abroad (e.g., under a licensing agreement), etc.

(ii) FAR 21.185(c) pertains specifically to the issuance of U.S. restricted category airworthiness certificates to aircraft imported to the U.S. which have been type certificated by the FAA in the restricted category under the provisions of FAR 21.29.

(2) FAR 21, Subpart K deals in general terms with the approval of materials, parts, processes, and appliances. Subpart N establishes the procedural requirements for airworthiness approval or acceptance of aircraft engines, propellers, materials, parts, and appliances manufactured outside the U.S., including appliances and articles for which a "letter of TSO design approval" has been issued under FAR 21, Subpart O (ref. FAR's 21.601(b)(3) and 21.617).

d. Export certificates of airworthiness or other certifying statements, issued by either the FAA or an ECAA are to facilitate airworthiness certification by the authority of the new country of registry. These export certificates do not constitute "airworthiness certificates" within the meaning of Sections 603(c) or 610(a)(1) of the FA Act or of FAR 91.27.

e. Modifications or repairs made to an airplane or related product subsequent to export certification by the ECAA may invalidate that certification unless these modifications or repairs can be or are approved by the FAA.

### 31. AIRCRAFT.

#### a. Requirements for U.S. Airworthiness Certification.

(1) The FAA Regulations. The FAA regulations concerning issuance of airworthiness certificates for U.S.-registered aircraft (new or used) are contained in FAR 21, Subpart H. Most of the requirements apply equally to aircraft that were manufactured outside the U.S. Additional requirements in FAR's 36, 39, 45, 47, 49, and 91 (as highlighted below) must also be met before the aircraft can be certificated or operated.

(2) U.S. Registration. Without exception, U.S. registration must be completed, and appropriate registration markings ("N" numbers) must be applied before a U.S. airworthiness certification in any category may be lawfully issued. These are statutory requirements; therefore, the FAA could not issue an exemption from this requirement. Evidence of deregistration from the foreign registry, if appropriate, and U.S. registration will be required prior to the issuance of a U.S. airworthiness certification. FAA requirements for U.S. registration are established in FAR 47. The recording of aircraft titles and security documents is addressed by FAR 49. Aircraft nationality and registration marking requirements are contained in FAR 45, Subpart C.

(3) Product Identification. Prior to the issuance of a U.S. airworthiness certificate, the aircraft must have an identification plate in accordance with FAR 21.182, which meets the requirements of FAR 45, Subpart B.

(4) Noise and Emissions Requirements. In addition to meeting the airworthiness standards, an aircraft must meet the noise standards of FAR's 21.93(b), 21.183(e) or 21.185(d), FAR 36, SFAR 41 (preface to FAR 21), or FAR 91, Subpart E, as applicable. The emissions standards of SFAR No. 27 (preface to FAR 11), if applicable, must also be met to be eligible for a U.S. airworthiness certificate.

(5) Approved Flight Manuals, Markings, and Placards. The aircraft must be accompanied by an approved flight manual in the English language as identified on the FAA type certificate data sheet. Also, the aircraft must have the appropriate English language markings and placards specified in the FAA type certificate data sheet, flight manual, or other approved manual material as required by FAR 91.31, a current weight and balance report, and a list of installed equipment.

(6) Logbooks and Maintenance Records. Aircraft must be accompanied by the necessary logbooks and maintenance records as specified in FAR 91.173 to determine the status of required inspections, life limits, etc.

(7) Airworthiness Directives. Evidence must be produced to show that the aircraft complies with all applicable FAA airworthiness directives issued under FAR 39.

(8) Aircraft Location. A U.S. airworthiness certificate will not be issued to an aircraft located outside the U.S., unless the FAA finds no undue burden on the FAA in administering the applicable regulations. Procedures have been established to use the services of the CAA of the country of manufacture, or FAA-appointed designees, to mitigate the burden of completing U.S. airworthiness certification of aircraft located outside the U.S. The potential applicant for U.S. airworthiness certification should consult with the FAA to determine what is possible in any particular situation before firm commitments are made by the applicant that would assume issuance of a U.S. airworthiness certificate on an aircraft located outside the U.S.

b. Application.

(1) Application for a U.S. airworthiness certificate should be made by the registered owner (or an agent of the owner) on an FAA Form 8130-6, "Application for Airworthiness Certificate." To obtain information on where such forms are available, you may contact any of the FAA offices listed in Appendix 2.

(2) When the applicant has completed and signed the appropriate sections of the application, the form should be submitted to the appropriate FAA certificating office, along with the ECAA export certificate of airworthiness. The appropriate certificating office may be identified by contacting any FAA office listed in Appendix 2.

(3) Approved flight manuals, logbooks, and maintenance records should not be submitted to FAA but should be made available for examination by FAA, upon request.

c. FAA Airworthiness Determination.

(1) In all cases, the FAA is required by the FA Act to make a finding that the aircraft under application conforms to an FAA type certificate (i.e., an FAA-approved type design), and that it is in a condition for safe operation before the FAA issues a U.S. airworthiness certificate on an aircraft. The FAA may base its findings, wholly or partially, depending on the particular situation, on a certification (e.g., an export certificate of airworthiness) issued by the CAA of another country, provided a BAA exists between the U.S. and the other country which provides for such acceptance.

(2) FAR's 21.183(c) and 21.185(c) provide that an "import aircraft," i.e., an aircraft type certificated under the procedures of FAR 21.29, is entitled to a U.S. airworthiness certificate in the appropriate category (e.g., standard or restricted) if the ECAA of the country of manufacture certifies, and the FAA finds, that the aircraft conforms to a design configuration approved under the applicable FAA type certificate and is found to be in a condition for safe operation.

(3) The ECAA certifications should be made by issuance of an export certificate of airworthiness which contains the certification statement noted on the corresponding FAA type certificate data sheet or certifies that the aircraft meets its FAA-approved type design and is in a condition for safe operation. The FAA expects that the aircraft will have been fully assembled and flight tested, and the engines and propellers will be performance tested, before an ECAA export certificate is issued.

(4) When a used aircraft is being exported to the U.S. from a country other than the country of manufacture, and provided that the BAA's between the U.S. and the exporting country and between the U.S. and the country of manufacture contain the appropriate (i.e., "third country") provisions, the FAA will accept export certificates of airworthiness issued by the ECAA which certify that the aircraft conforms to its FAA-approved type design and is found to be in a condition for safe operation. In such cases, the FAA considers it incumbent upon the ECAA issuing the export certificate to consult with both the CAA of the country of manufacture and the FAA to assure it has adequate knowledge of the type design approved by the FAA. Configuration variations, modifications, and major repairs that are not FAA-approved should be identified, and FAA approval should be obtained before the ECAA issues its export certificate of airworthiness. The application for a U.S. airworthiness certification in these cases should cite FAR 21.183(d) or 21.185(b) as the basis for certification. Notwithstanding that these FAR's do not specifically speak to an ECAA certification, such certifications may be the only practicable way for the applicant to show and for the FAA to find conformity to the FAA-approved type design and condition for safe operation. The procedures outlined in this paragraph also apply in those instances where the BAA with the exporting country does not contain a "third country" provision when the export certificate of airworthiness issued by the ECAA is endorsed by the CAA of the country of manufacture.

(5) The procedures of paragraph 31c(3) may also be applied for U.S.-manufactured aircraft being returned from a registry of another country for U.S. registration and airworthiness certification, provided the BAA's between the U.S. and the last country of registry contain the "third country" provision.

(6) The BAA's which include a "third country" provision, as referenced in paragraphs 31c(4) and (5), are summarized in Appendix 4 to this AC. Also, see Note 7 to Appendix 4 regarding a two-country provision.

(7) Applicants are cautioned that cases may exist where it will be impractical to obtain a U.S. airworthiness certificate for an aircraft that has been operated on the registry of another country subsequent to the issuance of an export certificate of airworthiness by the CAA of the country of manufacture. This includes U.S.-manufactured aircraft being returned to the U.S. registry. Applicants for the U.S. airworthiness certificate should assure themselves that they will be able to identify repairs and modifications, and to document the equipment installed and maintenance accomplished on the aircraft between the period of time the export certificate was issued and the date of application for the U.S. airworthiness certificate. Further, the applicant must show that the aircraft has remained in or has been returned to its FAA-approved design configuration and is in a condition for safe operation. This may involve extensive inspections to be accomplished by designees, certificated persons, the ECAA of the country of manufacture, the aircraft manufacturer, etc., as appropriate, before a U.S. airworthiness certificate can be issued.

(8) In those instances where an aircraft manufactured outside the U.S. was originally exported to a country other than the U.S., and the CAA of the country of manufacture has issued an export certificate attesting to conformance to a design other than that approved by the FAA, such certificates may be useful to the applicant to establish a base line for showing conformity to the U.S.-approved design after modification. In these cases or when the export certificate of airworthiness may not be available, it would be helpful if the applicant obtained a statement from the CAA of the country of manufacture which certifies that, when originally exported from that country, the aircraft met its FAA-approved design and/or identify any differences between the configuration identified in their original export certification and the FAA-approved design. The applicant must obtain the necessary technical data needed to convert the aircraft to its FAA-approved design configuration. This method may involve extensive inspections to be accomplished by designees, certificated persons, the CAA of the country of manufacture, the aircraft manufacturer, etc., as appropriate, before the applicant will be in a position to show conformity to the FAA-approved design and condition for safe operation. Attempts to obtain a U.S.-airworthiness certificate via this method may prove to be impracticable for the applicant; and in some instances, due to a variety of reasons such as unavailability of conversion data, the applicant may ultimately be unable to obtain the desired U.S. airworthiness certificate.

(9) FAA will not normally issue a U.S. airworthiness certificate for an aircraft manufactured outside the U.S., when no export certification is

available. This is due to the fact that, to be acceptable, aircraft manufactured outside the U.S. must be controlled under BAA procedures with assurance of conformity and condition provided by the CAA in the country of manufacture. Accordingly, without assurance in the form of an export certificate or a certifying statement from the ECAA of the country of manufacture, there is no practical way for an applicant to show, or for the FAA to find conformance with the FAA-approved design and condition for safe operation.

(10) FAA inspections of an aircraft may be conducted to determine that changes or modifications have not been made, and that the condition of the aircraft has not deteriorated subsequent to export certification by the ECAA. If the aircraft has been disassembled and reassembled subsequent to export certification by the ECAA, flight testing may be required prior to issuance of a U.S. airworthiness certificate.

## 32. AIRCRAFT ENGINES, PROPELLERS, MATERIALS, PARTS, AND APPLIANCES (RELATED PRODUCTS).

### a. Airworthiness Determination.

(1) FAR 21.500 provides for the airworthiness acceptance of aircraft engines or propellers manufactured outside the U.S. for which a U.S. type certificate has been issued. Such products are considered approved for installation on a U.S.-registered aircraft when a current export certificate of airworthiness has been issued by the CAA of the country of manufacture which certifies that the engine or propeller:

(i) Conforms to its U.S. TC and is found to be in a condition for safe operation; and

(ii) Has been subjected to a final operational check by the manufacturer.

(2) FAR 21.502 provides for the airworthiness acceptance of materials, parts, and appliances (essentially replacement/modification parts) manufactured outside the U.S. for which some form of FAA design approval has been granted. Such products are considered approved for installation on U.S.-registered aircraft when a current export certificate of airworthiness has been issued by the CAA of the country of manufacture which certifies conformity to the U.S.-approved design and condition for safe operation on the date the certification was issued.

(3) FAR 21.617(c) addresses products that are of a design covered by an FAA letter of TSO design approval. Neither the FAA letter of TSO design approval nor the export certificate of airworthiness issued by the CAA of the country of manufacture conveys installation approval. Installation approval for a TSO product must be obtained, in a manner acceptable to the FAA, at the time of installation if not already accomplished. Approval for return to service must be performed by a person authorized in FAR 43.



(4) [Reserved]. To be added at the first revision.

(5) [Reserved]. To be added at the first revision.

(6) Various types of export certification documents are utilized by the ECAA's. In some cases, these certifications may be in the form of an official ECAA certificate or may be made on industry release notes or forms which may be signed by private persons, when so authorized by the ECAA. The FAA will accept the various types of certifications, provided they represent a certification from the appropriate ECAA attesting conformity to the U.S. type design and condition for safe operation of the particular product being exported and are appropriately endorsed by the ECAA or a duly authorized designee (the ECAA of the exporting country should confirm a designee's scope of authority when so requested by the FAA). These certifications serve to comply with the requirements for an export certificate of airworthiness for the purpose of FAR 21.500 or 21.502. In those instances where the certifying language differs from that stated in paragraph 32, the FAA would request a letter from the ECAA stating that the language used meets the intent of FAR 21.500 or 21.502, as appropriate. The ECAA airworthiness certification documentation is essential to a determination by the FAA that the product is acceptable for installation on U.S.-registered aircraft.

b. Identification and Marking.

(1) Aircraft engines and propellers to be installed on U.S.-registered aircraft must be identified in a manner specified in FAR 45.11 with the information specified in FAR 45.13.

(2) Critical components to be used as spare or replacement/modification parts on U.S.-registered aircraft, or on engines or propellers to be installed on U.S.-registered aircraft must be identified with a part number and serial number.

(3) Appliances and articles of a design approved by an FAA letter of TSO design approval must be marked in accordance with the requirements outlined in FAR 21, Subpart O, and any additional marking requirements specified in the particular TSO.

(4) Parts and materials to be used as spare or replacement/modification parts on U.S.-registered aircraft must be identified by a part number and the manufacturer's name or trademark. In addition, the ECAA certification must contain information concerning the model designation of the FAA type certificated product for which the part or material is eligible for installation. Products produced pursuant to FAR 21, Subpart O, Letter of TSO Design Approval, are not subject to this requirement, since model eligibility is established at the time of installation.

(5) The products must be accompanied by maintenance records equivalent to those specified in FAR 91.173 that reflect the status of required inspections, life limits, etc.

c. Notwithstanding the existence of an export certificate, it remains the responsibility of the person authorized to return the aircraft, airframe, engine, propeller, or appliance (on which the product has been installed) to service under FAR 43.5, to determine that the imported product:

- (1) Has not been modified, changed, or damaged subsequent to the time of export certification;
- (2) Complies with all applicable FAA airworthiness directives issued under FAR 39;
- (3) Is installed in accordance with FAA-approved design data;
- (4) As installed, is found to be in a condition for safe operation; and
- (5) The necessary maintenance documentation is provided.

33. REBUILT PRODUCTS. [Reserved.] To be added at the first revision.

34. SPECIAL MAINTENANCE RECORDS CONSIDERATION. The information provided in paragraphs 31 through 33 above envisage an aircraft or related products intended for operation under the general operating regulations of FAR 91 only. U.S. operators, such as air carriers, air travel clubs, and operators for compensation and hire, certificated by the FAA for operation under FAR's 121, 125, and 135, will be required to have sufficient maintenance data on the aircraft or related product. This will enable the operator to integrate the aircraft or related product into its own FAA-approved maintenance program. U.S. operators will have difficulties in doing this unless the records are complete and are in the English language, or can be translated into the English language. It is vitally important for operators and potential U.S. operators of imported aircraft, including U.S.-manufactured aircraft, to realize that an FAA airworthiness certificate does not automatically render the aircraft or product eligible for operation. FAA operating requirements may specify the need for maintenance records, additional inspections, tests, and installation of instruments and equipment which are over and above the basic airworthiness certification requirements.

35.-39. [RESERVED.]

#### CHAPTER 4. PRODUCTION QUALITY CONTROL SYSTEM APPROVALS

40. GENERAL. FAA approval of a U.S. manufacturer's production quality control system serves to facilitate FAA airworthiness certification, approval, or acceptance of products manufactured at that facility. These production quality control system approvals support the manufacturer's obligation to assure that the products delivered from the facility conform to the approved design and are in a condition for safe operation. For products manufactured outside the U.S., the export certification of airworthiness from the ECAA of a country with which the U.S. has a BAA serves the same purpose; therefore, the FAA does not normally approve production quality control systems located outside the U.S. See paragraph 8b for a discussion of the use by a U.S. prime manufacturer of component suppliers from countries which may not hold a U.S. BAA.

41.-49. [RESERVED.]



CHAPTER 5. CONTINUED AIRWORTHINESS50. GENERAL.

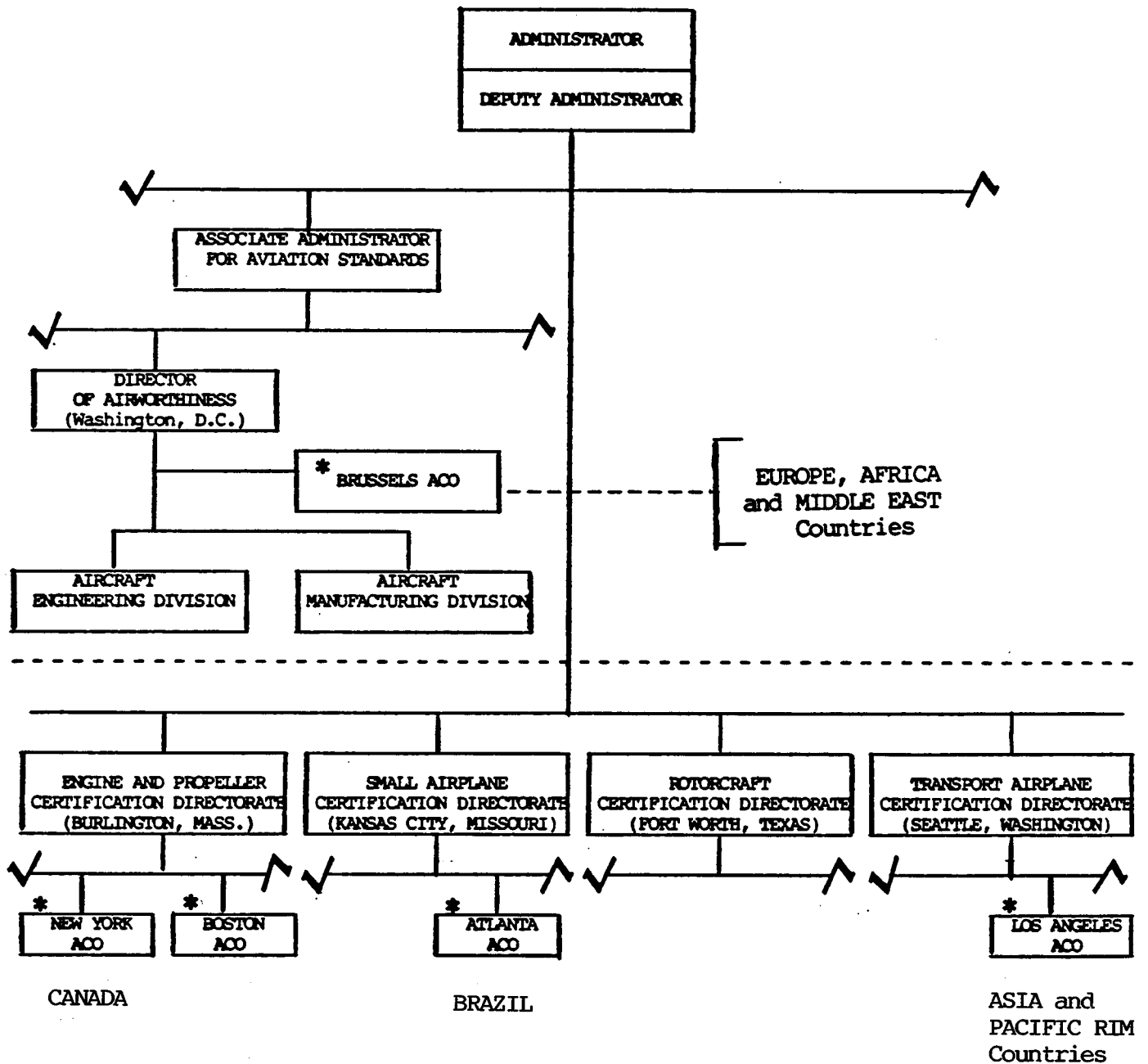
a. All BAA's provide, in one way or another, for close cooperation between contracting States in the resolution of safety issues that might arise from inservice operation of any product exported/imported and approved or accepted under the terms of the BAA. When a safety concern arises, the FAA will work with and through the ECAA to the maximum extent practicable in a cooperative way (e.g., exchange of information and technical opinions) to determine the appropriate corrective action to be required of operators or owners of affected U.S.-registered aircraft. ECAA's are expected to keep FAA informed of corrective actions that they believe are required for safety on U.S.-registered aircraft.

b. Service documents (e.g., service bulletins, structural repair manuals, supplemental structural inspection documents, etc.), approved by the airworthiness authority of the country where an affected product is manufactured, are considered to be FAA-approved unless otherwise noted. However, service bulletins or other similar instructions classified as "mandatory" by the ECAA are not mandatory in the U.S. regulatory system unless required by an FAA Airworthiness Directive.

c. Owners or operators of affected U.S.-registered aircraft are not required under U.S. law to comply with service documents or directives issued by the airworthiness authorities of other countries unless an FAA Airworthiness Directive is issued under FAR 39.



APPENDIX 1. FAA ORGANIZATIONAL CHART FOR  
AIRCRAFT CERTIFICATION RESPONSIBILITIES



\* Aircraft Certification Office (ACO) having import certification responsibilities for the geographic areas indicated.





APPENDIX 2. GEOGRAPHICAL RESPONSIBILITIES FOR CIVIL AERONAUTICAL  
PRODUCT CERTIFICATION MATTERS IN OTHER COUNTRIES

a. For all engines manufactured outside the U.S.:

Boston ECO - Federal Aviation Administration  
Manager, Engine Certification Office  
12 New England Executive Park  
Burlington, Massachusetts 01803  
(Telephone: (617) 273-7080)

b. For aircraft and related products (other than engines and propellers) in  
CANADA:

New York ACO - Federal Aviation Administration  
Manager, Aircraft Certification Office  
181 South Franklin Avenue, Room 202  
Valley Stream, New York 11581  
(Telephone: (516) 791-6680)

c. For propellers manufactured outside the U.S.:

Engine and  
Propeller  
Standards  
Staff - Federal Aviation Administration  
Manager, Engine and Propeller Standards Staff  
12 New England Executive Park  
Burlington, Massachusetts 01803  
(Telephone: (617) 273-7068)

d. For aircraft and related products (other than engines) in EUROPE, AFRICA,  
and MIDDLE EAST (i.e., AUSTRIA, BELGIUM, CZECHOSLOVAKIA, DENMARK, FINLAND, FRANCE,  
GERMANY, ISRAEL, ITALY, THE NETHERLANDS, NORWAY, POLAND, ROMANIA, SOUTH AFRICA,  
SPAIN, SWEDEN, SWITZERLAND, and UNITED KINGDOM):

Brussels, ACO - Federal Aviation Administration  
Manager, Aircraft Certification Staff  
15 rue de la Loi (3rd floor)  
B-1040  
Brussels, Belgium  
(Telephone: 322-513-3830, ext. 2710)

(Mail address from USA):  
c/o American Embassy  
APO New York, NY 09667-1011

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e. For aircraft and related products (other than engines) in ASIA and PACIFIC RIM countries (i.e., AUSTRALIA, JAPAN, NEW ZEALAND, SINGAPORE and INDONESIA):

Los Angeles ACO - Federal Aviation Administration  
Manager, Aircraft Certification Office  
4344 Donald Douglas Drive  
Long Beach, California 90808  
(Telephone: (213) 514-6330)

f. For aircraft and related products (other than engines) in the CARIBBEAN, CENTRAL AMERICAN, and SOUTH AMERICAN countries (i.e., BRAZIL):

Atlanta ACO - Federal Aviation Administration  
Manager, Aircraft Certification Office  
1075 Inner Loop Road  
College Park, Georgia 30337  
(Telephone: (404) 991-6105)

APPENDIX 3. ACCOUNTABLE FAA DIRECTORATES**a. Transport Airplane Certification Directorate**

Federal Aviation Administration  
Transport Airplane Certification Directorate  
Manager, Aircraft Certification Division  
17900 Pacific Highway South, C-68966  
Seattle, Washington 98168

TELEPHONE: (206) 431-2100  
TELEFAX: (206) 431-2071  
TELEX: 321-061

**b. Engine and Propeller Certification Directorate**

Federal Aviation Administration  
Engine & Propeller Certification Directorate  
Manager, Aircraft Certification Division  
12 New England Executive Park  
Burlington, Massachusetts 01803

TELEPHONE: (617) 273-7100  
TELEFAX: (617) 273-7832  
or 273-7269  
TELEX: 949-301

**c. Small Airplane Certification Directorate**

Federal Aviation Administration  
Small Airplane Certification Directorate  
Manager, Aircraft Certification Division  
601 East 12th Street  
Kansas City, Missouri 64106

TELEPHONE: (816) 374-6937  
TELEFAX: (816) 374-3246

**d. Rotorcraft Certification Directorate**

Federal Aviation Administration  
Rotorcraft Certification Directorate  
Manager, Aircraft Certification Division  
4400 Blue Mound Road, P.O. Box 1689  
Fort Worth, Texas 76101

TELEPHONE: (817) 624-5100  
TELEFAX: (817) 624-5006  
TELEX: 792-861

**e. Office of Airworthiness<sup>1</sup>**

Federal Aviation Administration  
Director of Airworthiness  
800 Independence Avenue, SW.  
Washington, D.C. 20591

TELEPHONE: (202) 267-8235  
TELEFAX: (202) 267-3505  
or 267-3507  
TELEX: 892-562

<sup>1/</sup> The Office of Airworthiness provides policy guidance on general procedural issues, TSO's, gliders, and manned free balloons.



## APPENDIX 4. SUMMARY OF BILATERAL AIRWORTHINESS AGREEMENTS

(Revised 5/15/87)

## BILATERAL COUNTRIES

	AIRCRAFT	REPLACEMENT/MODIFICATION PARTS FOR EXPORTED AIRCRAFT	AIRCRAFT ENGINES	REPLACEMENT/MODIFICATION PARTS FOR EXPORTED AIRCRAFT ENGINES	PROPELLERS	REPLACEMENT/MODIFICATION PARTS FOR EXPORTED PROPELLERS	APPLIANCES	REPLACEMENT/MODIFICATION PARTS FOR EXPORTED APPLIANCES	COMPONENTS				THIRD COUNTRY PROVISION	MAINTENANCE	TREATIES AND OTHER INTERNATIONAL ACT SERIES	AGREEMENT DATE
									MATERIAL	PARTS	SUBASSEMBLIES					
AUSTRALIA (Ref. Notes 4 and 7)	X	X	X	X	X	X	X	X	X	2	2	2	X		8126	1975
AUSTRIA	X	X	X	X	X	X									4219	1959
BELGIUM (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7675	1973
BRAZIL (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		8384	1976
CANADA	X	X	X	X	X	X	X	X	X	2	2	2	X	X	7091 131	1984
(Ref. Note 4) CZECHOSLOVAKIA	X	X	X	X	X	X	X	X							6987	1970
DENMARK	X	X	X	X	X	X	X	X	X	2	2	2	X		10335 3158	1982
FINLAND	X	X					X	X							7795	1974
FRANCE (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7728	1973
GERMANY (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7965	1974
INDONESIA	X	X	X	X	X	X	X	X	X	2	2	2				1987
ISRAEL	X	X	X	X	X	X	X	X	X	2	2	2			7926 6530	1974
ITALY (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7895	1973
JAPAN (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		8934	1977
NETHERLANDS (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7869	1974
NEW ZEALAND	X	X	X	X	X	X	X	X	X	2	2	2			9440 6857	1979
NORWAY	X	X					X	X							9141 3769	1978
POLAND	X	X	X	X	X	X	X	X	X	2	2	2			9723 8407	1980
ROMANIA	X	X													8440	1976
SINGAPORE (Ref. Notes 4 and 9)	X	X	X	X	X	X	X	X	X	2	2	2	X		10203	1981
SOUTH AFRICA	X	X	X	X	X	X	X	X	X	2	2	2				1984
SPAIN	X	X					X	X							3200 3906	1978
SWEDEN (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7611	1973
SWITZERLAND	X	X	X	X	X	X	X	X	X	2	2	2			8563 5214	1977
UNITED KINGDOM (Ref. Note 4)	X	X	X	X	X	X	X	X	X	2	2	2	X		7537	1972

(See next page for explanation of notes.)

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EXPLANATION OF NOTES.

1. Gliders only.
2. The U.S. has bilateral airworthiness agreements with these countries which provide for the reciprocal acceptance of certificates of conformity for components (i.e., materials, parts, and subassemblies) produced within the limits of each particular bilateral.
  - a. An agreement exists between the manufacturers in the importing and exporting countries; and
  - b. The component is of such complexity that a determination of conformity cannot readily be made by the manufacturer in the importing country; and
  - c. The airworthiness authorities of the importing country have notified the airworthiness authorities of the exporting country of the applicable design, test, and quality control requirements and then only if the authority of the exporting country is willing to undertake the task.
3. The U.S./New Zealand Bilateral is limited to --
  - a. Export from New Zealand to the U.S.:
    - (1) Fixed-wing aircraft constructed in New Zealand not exceeding a maximum weight of 12,500 pounds;
    - (2) Spare (replacement) parts for fixed-wing aircraft constructed in New Zealand which do not exceed a maximum weight of 12,500 pounds;
    - (3) Appliances for use on civil aircraft;
    - (4) Spare (replacement) parts for those appliances used on civil aircraft; and
    - (5) Components for fixed-wing aircraft not exceeding 12,500 pounds.
  - b. Export from U.S. to New Zealand:
    - (1) U.S.-constructed civil aircraft, in all categories;
    - (2) U.S.-constructed aircraft engines and propellers;
    - (3) Spare (replacement) parts for such aircraft, aircraft engines, and propellers.
    - (4) Appliances for use on civil aircraft;
    - (5) Spare (replacement) parts for those appliances for use on civil aircraft; and

(6) Components for use on civil aircraft and related products.

4. These BAA's contain a third-party country provision which provides for import/export certification of products/parts therefor by the civil air authorities of a country other than the country of manufacture. In these instances, the exporting country must certify that the products/parts therefor conform to the design covered by the certificate or approval of the importing country (which would be other than country of manufacture) and that the products/parts therefor are in proper state of airworthiness. This provision only applies when all three countries (i.e., manufacturing, importing, and exporting countries) have similar agreements for the reciprocal acceptance of such certifications.

5. Although this bilateral contains a provision for including appliances and replacement or modification parts therefor, by mutual consent of both countries, no appliances nor replacement/modification parts have been included to date.

6. U.S./Polish BAA is limited to --

a. Products which may be exported from Poland to U.S. (or U.S. possession):

(1) Civil gliders and replacement/modification parts therefor designed and produced in Poland;

(2) Piston engines of 1,000 h.p. or less with associated propellers and accessories and replacement/modification parts therefor produced in Poland;

\*(3) Small fixed-wing aircraft of 12,500 pounds or less and replacement/modification parts therefor

\*(4) Helicopters with associated accessories and replacement/modification parts therefor;

\*(5) Turbine engines and replacement/modification parts therefor; and,

(6) Components and appliances for U.S.-manufactured products of the types specified in subparagraphs (1), (2), (3), (4), and (5) above.

\*NOTE: Refer to U.S./Poland BAA for applicable design constraints.

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b. Products which may be exported from the U.S. to Poland:

(1) U.S.-designed and produced aircraft, engines, propellers, components and appliances; and replacement/modification parts therefor; and

(2) U.S.-produced components and appliances for Polish-manufactured products; and replacement and spare parts therefor.

7. The U.S./Australian BAA contains a two-party country provision which provides for reciprocal certification whereby Australia can issue an export certificate for a U.S.-manufactured product located in that country which is to be exported to the U.S. Conversely, the U.S. can issue an export certificate for an Australian-manufactured product which is located in the U.S. and which is to be exported to Australia. Such certifications will state that the product conforms to the importing country's type design and is in a proper state of airworthiness.

8. The U.S./Indonesia BAA is limited, when exporting aeronautical products from Indonesia to the U.S., to the production approval and airworthiness certification or approval of civil aeronautical products for which the Indonesian manufacturer holds the manufacturing rights to a U.S. type certificate under a licensing agreement with a U.S. manufacturer, or with a manufacturer in another state with which the U.S. has an agreement for the reciprocal acceptance of type design certifications.

9. The U.S./Singapore BAA is limited to --

a. Export from Singapore to the U.S.:

(1) U.S.-designed component for use in the manufacture of an aircraft or related product in the U.S. (Note: Such components may also be shipped directly from Singapore to other States [other than the U.S.] when authorized by the FAA, for use as a replacement or modification part on U.S.-registered aircraft located in the other State); and

(2) Appliances approved under Federal Aviation Regulations, § 21.617, Technical Standard Order Design Approval.

(3) Note 4 of this document (third party country provision) only applies to those products listed under the foregoing subparagraphs (1) and (2) exported from Singapore to the U.S.

b. Export from the U.S. to Singapore:

(1) All products listed in the summary chart (page 1 of this Appendix); and

(2) Note 4 of this document (third-party country provision) applies to all products listed in the summary chart, exported from the U.S. to Singapore.









